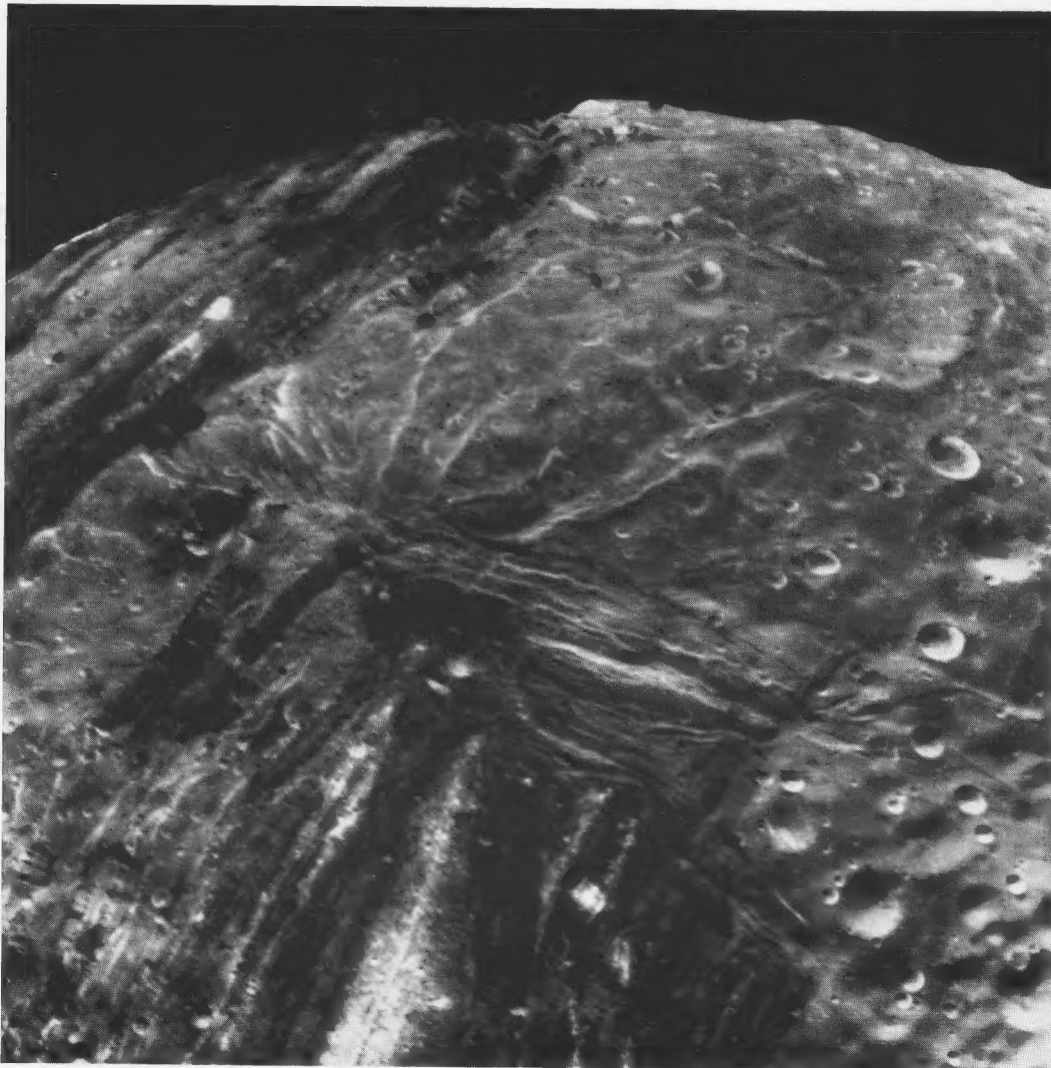


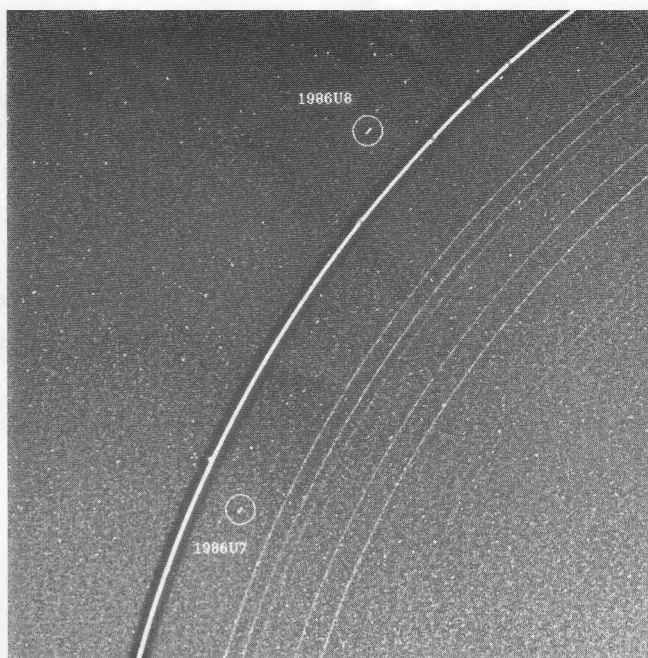
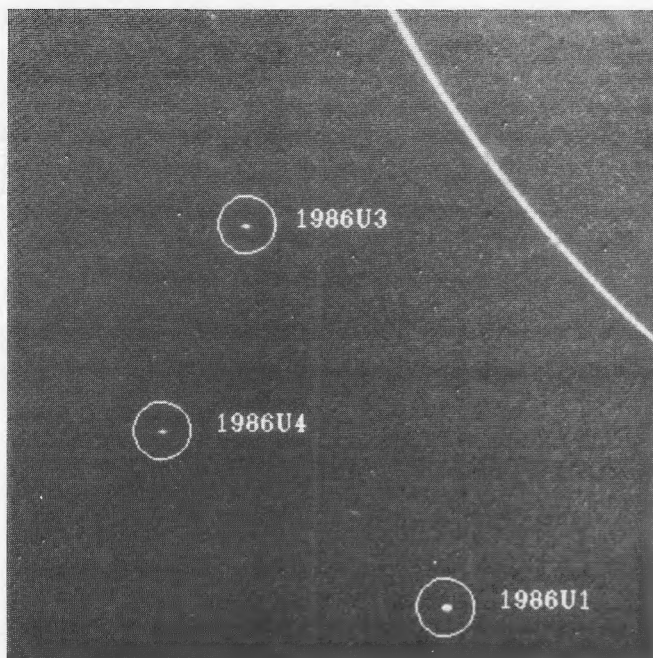
Voyager Bulletin

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Miranda!



Uranus' innermost large moon is a hybrid of the most bizarre geologic forms in the solar system, including the valleys and flows of the planet Mars, the compression faults of the planet Mercury, and the grooved terrain of Jupiter's satellite Ganymede. Here, a slab region is bordered by a deep trench that goes beyond the limb, with scarps and sawtooth terraces. Old terrain showing tectonic features with many kinds of faults borders cratered areas that have undergone impact gardening by meteor bombardment long ago. This incredible picture is part of an eight-frame mosaic made January 24 as Voyager 2 raced past the 500-km (310-mi) diameter moon at 65,000 km (40,000 mi) an hour, tracking the satellite's motion. The light levels at Uranus, two billion kilometers from the Earth, are one quarter of one percent as much as at Earth, requiring long camera exposures which would result in badly smeared images were it not for engineering changes made to the spacecraft over the past several years. Voyager 2 also flew closer to Miranda than to any other body it has visited. Features as small as 600 meters (one-third mi) can be seen in this image, taken at a distance of 31,000 kilometers (19,000 miles).



Several moons newly discovered by Voyager 2 are shown in these images. At left, three of the newly discovered satellites of Uranus are captured in this image taken January 18, 1986, when the spacecraft was 7.7 million kilometers (4.8 million miles) from the planet. All three lie outside the orbits of Uranus' nine known rings, the outermost of which, the epsilon ring, is seen at upper right. Long exposures were required to detect these small objects; thus, as a result of the relative motions of the spacecraft and the moons, they appear slightly elongated. At right, two "shepherd" satellites associated with the rings of Uranus are shown. The two moons — designated 1986U7 and 1986U8 — are seen here on either side of the bright epsilon ring; all nine of the known Uranian rings are visible. The image was processed to enhance narrow features. The epsilon ring appears surrounded by a dark halo as a result of this processing; occasional blips seen on the ring are also artifacts. Lying inward from the epsilon ring are the delta, gamma and eta rings; then the beta and alpha rings; and finally the barely visible 4, 5 and 6 rings. Since their discovery in 1977, the rings have been studied through observations of how they diminish the light of stars they pass in front of. This image is the first direct observation of all nine rings in reflected sunlight. They range in width from about 100 km (60 mi) at the widest part of the epsilon ring to only a few kilometers for most of the others. The discovery of the two ring moons 1986U7 and 1986U8 is a major advance in understanding the structure of the Uranian rings and is in good agreement with theoretical predictions of how these narrow rings are kept from spreading out. Based on likely surface brightness properties, the moons are of roughly 20- and 30-km diameter, respectively.



OBERON

A large crater with a bright central peak stands out near the center of Oberon's disk in Voyager 2's best picture of Uranus' outermost moon. The floor of the crater is partially covered with very dark material. This may be icy, carbon-rich material erupted onto the crater floor sometime after the crater formed. Another striking topographic feature is a large mountain, about 6 kilometers (4 miles) high, peaking out on the lower left limb. Several large impact craters on the icy surface are surrounded by bright rays similar to those seen on Jupiter's moon Callisto. The picture was taken on January 24, 1986, from a distance of 660,000 km (410,000 mi). The color was reconstructed from images taken through the narrow-angle camera's violet, clear and green filters.



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